

## **Acacia miscellany 20. Descriptions of three new Western Australian species of *Acacia* section *Juliflorae* (Leguminosae: Mimosoideae)**

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### **Abstract**

Chapman A.R. and Maslin, B.R. *Acacia* miscellany 20. Descriptions of three new Western Australian species of *Acacia* section *Juliflorae* (Leguminosae: Mimosoideae). *Nuytsia* 12(3): 487–491 (1999). Descriptions are provided for *A. gloeotricha* A.R. Chapman & Maslin, *A. incanycarpa* A.R. Chapman & Maslin and *A. subsessilis* A.R. Chapman & Maslin.

### **Introduction**

Three new Western Australian species of *Acacia* Mill. (Leguminosae: Mimosoideae)—*A. gloeotricha*, *A. incanycarpa* and *A. subsessilis*—are described. All are referable to *Acacia* section *Juliflorae* (Benth.) C. Moore & Betche.

This is the final paper in a series commenced eight years ago (Cowan & Maslin 1990), dealing with the taxonomy of Australian species of *Acacia* prior to their presentation in “Flora of Australia” Volumes 11A and 11B.

### **New species**

***Acacia gloeotricha*** A.R. Chapman & Maslin, *sp. nov.*

Ramuli hispiduli, praecipue pilis glandiferis. Phyllodia anguste elliptica, asymmetrica, 5–9 cm longa, 8–18 mm lata, glanduloso-hispidula; venae longitudinales multae, 3–5 quam aliae prominentiores, venis minoribus approximatis, parce anastomosantibus; stipulae persistentes; glans basalis. Inflorescentiae simplices, plerumque 2 per axillum. Pedunculi 7–15 mm longi, glanduloso-hispiduli. Spicae c. 4 cm longae. Flores 5-meri. Sepala ad basin unita. Petala hispidula. Legumen lineare, 3–5 mm latum, glanduloso-hispidulum, marginibus crassis, pallidis. Semina longitudinalia, late ellipsoidea, 4.5 mm longa.

*Typus*: King Leopold Range [precise locality withheld for conservation reasons], Western Australia, 26 June 1976, A.C. Beauglehole 53912 (*holo*: PERTH 00512168; *iso*: BRI, PERTH 00938653).

Openly branched *shrub* to 4 m tall. *Branchlets* finely ribbed, densely glandular-hispidulous (hairs very short, straight, patent and gland-tipped), yellow-brown ageing grey. *Stipules* triangular, 1.5–1.7 mm long, 0.8–1 mm wide,  $\pm$  scarious, sparsely fimbriolate, dark red-brown, persistent. *Phyllodes* narrowly elliptic, somewhat asymmetric (lower margin  $\pm$  straight, upper margin convex), 5–9 cm long, 8–18 mm wide,  $l:w = 4-9$ , thinly coriaceous, erect, densely glandular-hispidulous (hairs very short, straight, patent and gland-tipped), grey-green; *longitudinal nerves* numerous, with 3–5 raised and more prominent than the rest (the central nerve the most pronounced), minor nerves close together and  $\pm$  sparingly anastomosing, all free to base or sometimes the lowermost (including the central nerve) concurrent with lower margin for a short distance above pulvinus; *apex* acute with a darker, flattened mucro; *pulvinus* c. 2 mm long, finely wrinkled, yellow. *Gland* normally not prominent, situated on upper margin of phyllode at distal end of pulvinus or to 1 mm above it. *Inflorescence* simple, initiated on actively expanding new shoot, (1)2(3) per phyllode axil but sometimes phyllodes failing to develop at the terminal nodes (in which case the conflorescence appears falsely racemose); *peduncles* 7–15 mm long, densely glandular-hispidulous (hairs very short, straight, patent and gland-tipped). *Spikes* bright golden, c. 4 cm long, 4–6 mm wide when dry, the flowers sub-densely arranged; *bracteoles* persistent, spatulate, 0.8–1 mm long, c. 0.2 mm wide, incurved at apex, puberulous, light-brown. *Flowers* 5-merous; *sepals* united at base, c. 1 mm long, c. 2/3 length of petals, narrowly linear, incurved at apex, hispidulous; *petals* c. 1.5 mm long, united for c. 1/2 their length, hispidulous. *Ovary* sessile, densely appressed-hairy; style sub-lateral. *Pods* linear, prominently raised over seeds on both sides and shallowly constricted between them, 5–9 cm long, 3–5 mm wide, crustaceous, straight to shallowly curved, glandular-hispidulous, viscid; margins thickened, pale. *Seeds* longitudinal in pod, widely ellipsoid, c. 4.5 mm long, c. 3.5 mm wide, turgid, somewhat shiny, black; *pleurogram* continuous; *areole* elliptic, c. 1.5 mm long, shallowly raised, pale yellow-brown, bordered by a distinctly raised rim; funicle/aril broad, fleshy, terminal, white.

*Other specimens examined.* WESTERN AUSTRALIA, King Leopold Range [precise localities withheld for conservation reasons]; A.C. Beaglehole 53862 (BRI, K, PERTH); A.C. Beaglehole 53926 (BRI, PERTH); T. Willing 464 (CANB, K, MEL, NSW, PERTH).

*Distribution.* Occurs in northern Western Australia where it is known only from the King Leopold Range.

*Habitat.* Sand over sandstone in hummock grassland.

*Phenology.* Flowering recorded in June; mature pods collected in August.

*Conservation status.* CALM Conservation Codes for Western Australian Flora: Priority One.

*Etymology.* The species name is derived from the Greek *gloeo-* (a sticky substance) and *trichos* (hair), in reference to the conspicuous glandular hairs on the branchlets, phyllodes, peduncles and pods.

*Affinities.* *Acacia gloeotricha* superficially resembles the widespread northern Australian species *A. stipuligera* F. Muell. in phyllode shape and size, the persistent stipules, spicate inflorescences and long, linear pods. *A. stipuligera* is readily distinguished by its non-glandular indumentum, shorter peduncles (1–5 mm long), densely pubescent pods, brown seeds, and by the minor nerves of its phyllodes forming a more obvious reticulum. Seed characters suggest that *A. gloeotricha* has some affinities to northern Australian species such as *A. lysiphloia* F. Muell. and *A. trachycarpa* E. Pritz. which are characterized by their 'minni ritchi' bark. Although the latter two species are viscid plants, neither has a glandular-hispidulous indumentum. Bark characters are unknown for *A. gloeotricha*.

***Acacia incanica*** A.R. Chapman & Maslin, *sp. nov.*

Frutex 1–2.5 m altus. Ramuli incani, saepe furfuracei. Phyllodia oblanceolata ad anguste oblonga vel elliptica, obtusa, 4–9 cm longa, 7–14 mm lata, coriacea, inter venas sericea, argenteo-viridia, venis multis, subtilibus, arcte parallelis, non-anastomosantibus, venis marginalibus flavis (juvenilibus rufo-resinosis). Inflorescentia simplex, uniceps. Pedunculi 2–3 mm longi. Spicae oblongoideae ad breviter cylindraceae. Flores 5-meri. Sepala per 2/3–3/4 longitudinis unita, lobis late triangularibus. Legumen lineare, ad 10 cm longum, 4–5 mm latum, rectum, incanum. Semina longitudinalia.

*Typus:* Frenchman Peak (east of Esperance), Western Australia, 30 December 1983, *B.R. Maslin* 5545 (*holo:* PERTH 00161845; *iso:* CANB, G, K, MEL, NY).

Rounded or obconic bushy *shrub* 1–2.5 m tall, 2.5–3(6) m wide. *Bark* grey, longitudinally fissured at base of main trunks, smooth on branches. *Branchlets* ribbed, hoary (the hairs straight, closely appressed and silvery white), red-brown but often scurfy at tips, becoming glabrous and grey with age. *Stipules* not seen, no obvious scars apparent. *Phyllodes* oblanceolate to narrowly oblong or narrowly elliptic, 4–7.5(9) cm long, 7–14(16) mm wide, 1:w = 4–7, coriaceous, ascending to erect, sericeous (hairs confined to between the nerves with age), silvery grey green; *longitudinal nerves* numerous, parallel (not anastomosing), fine and close together, resinous on young phyllodes, the central nerve and occasionally 1 or 2 others slightly more evident than the rest; *marginal nerves* yellow, often white-scurfy, reddish and resinous on young phyllodes; *apex* ± obtuse, commonly with a very small, blunt, red-brown micro; *pulvinus* c. 2 mm long, sericeous. *Gland* obscure or absent. *Inflorescence* simple, commonly solitary in axil of phyllode, sometimes an immature bud present with the head at anthesis (2 heads in 1 axil at anthesis have not been observed); *peduncles* 2–3 mm long, sericeous but indumentum often obscured by resin; *basal peduncular bract* single, ovate, 1–1.4 mm long, 0.6–1 mm wide. *Spikes* oblongoid to shortly cylindrical, 7–10 mm long and 4–5 mm wide (dry), to 10 mm long and 7 mm wide (fresh), interrupted, c. 20-flowered, light golden; *young buds* resinous; *receptacle* sericeous, the indumentum often obscured by resin; *bracteoles* persistent, ovate, 0.6–0.8 mm long, 0.4–0.6 mm wide, sericeous, light-brown. *Flowers* 5-merous; *sepals* 0.8–1.1 mm long, 1/3–1/2 length of petals, dissected for 1/4–1/3 their length into broadly triangular lobes, sericeous; *petals* 2–2.2 mm long, united for 1/3–1/2 their length, nerveless, the lobes recurved. *Ovary* sessile, sericeous; style sub-lateral. *Pods* linear, 5–9(10) cm long, 4–5 mm wide, with up to 8 seeds per pod, firmly crustaceous, erect to patent, straight, smooth, hoary with minute, appressed, silvery hairs, dark brown. *Seeds* longitudinal in pod, obloid-ellipsoid, 3–5 mm long, 2–3 mm wide, 1–2 mm thick, glossy, dark brown with a lighter grey-brown patch on each face larger than the areole; *pleurogram* fine, grey-brown, oblong-elliptic, open 0.5 mm at hilar end; *areole* 1.5 mm long, 0.5–0.8 mm wide; *funicle* laterally compressed, expanding into a terminal, creamy-yellow (dry) or white (fresh) aril.

*Selected specimens examined.* WESTERN AUSTRALIA: Hill 49, Cape Le Grand National Park, *R.J. Cranfield* 1374 (PERTH); Frenchman Peak, Cape Le Grand National Park, *R. Cumming* 1157 (PERTH); Mt Le Grand, *A.S. George* 2221 (PERTH); just N of Thistle Cove, Cape Le Grand National Park, *A.S. George* 7488 (CANB, PERTH); 3 km N of Mt Le Grand, Cape Le Grand National Park, *K. Newbey* 8201 (PERTH); Cape Le Grand National Park, *A. Strid* 21174 (AD, CANB, MEL, NSW, PERTH); Cape Le Grand National Park, *A.S. Weston* 7169 (PERTH); Cape Le Grand National Park, *A.S. Weston* 7233 (CANB, PERTH); Mt Le Grand, c. 25 km SE of Esperance, *P.G. Wilson* 5582 (PERTH).

*Distribution.* Occurs in south-west of Western Australia where it is endemic in Cape Le Grand National Park, south-east of Esperance.

*Habitat.* Grows in pockets of loamy sand on granitic slopes and ridges in thicket dominated by *Melaleuca globifera*, heath and scrub.

*Phenology.* Flowering recorded in January, April, November and December; mature pods collected in November and December.

*Conservation status.* CALM Conservation Codes for Western Australian Flora: Priority One.

*Etymology.* The species name is derived from the Latin *incanus* (quite grey, hoary) and the Greek *karpos* (fruit) and refers to the obvious hoary indumentum of the pods.

*Affinities.* *Acacia tarculensis* J. Black in South Australia resembles *A. incanicarpa* with respect to phyllode shape and texture, indumentum, and inflorescence structure, but differs in having shorter phyllodes (2.5–5.5 cm long) with red, resinous margins, longer spikes (1.5–2.5 cm long), free sepals, and larger, strongly curved pods c. 1 cm wide with larger, oblique seeds (7.5 × c. 5 mm).

***Acacia subsessilis*** A.R. Chapman & Maslin, *sp. nov.*

Frutex 1–2 m altus. Ramuli lenticellulares, glabri. Phyllodia anguste linearia vel lineari-triangularia vel angustissime elliptica, 1–3 cm longa, 0.8–1.5 mm lata, pungentia, glabra, nervis 8, 3 in quoque pagina; glans 0–1 mm supra pulvinum inserta. Inflorescentia simplex, 1 vel 2 per axillum. Spicae oblongoidae vel cylindricae, 7–15 mm longae. Flores 5-meri. Sepala per 1/4–1/5 longitudinis unita. Legumen submoniliforme, 5–8 cm longum, 5–6 mm latum, tenuiter coriaceum vel crustaceum. Semina longitudinalia, 3.5–4 mm longa.

*Typus:* 0.5 km north of Fields Find road sign at Fields Find, Western Australia, 21–23 July 1982, R.J. Cumming 2018 (*holo:* PERTH 00154709; *iso:* CANB, G, K, MEL).

Rounded or obconic, straggly, spreading *shrub* 1–2 m tall, sparsely branched at ground level. *Bark* grey, fibrous at base of trunks, smooth and grey-brown on branches. *Branchlets* marked with raised scars where phyllodes have fallen, lenticellular, glabrous, red-brown. *Stipules* normally caducous. *Phyllodes* narrowly linear or (broadest phyllodes) linear-triangular or very narrowly elliptic, flat or (when very narrow) almost terete, 1–3 cm long, 0.8–1.5 mm wide, rigid, patent to slightly reclined, glabrous, light-green or subglaucescous; nerves 8 in all, 3 per face when phyllodes flat, raised, yellow-green; *apex* narrowed to a fine, pungent, needle-like, dark brown tip; *pulvinus* much-reduced, 0.5–1 mm long, represented by a narrow band of yellowish tissue at base of lamina. *Gland* not prominent, 0–1(2) mm above pulvinus, elliptic-ovate, 0.3–0.4 mm long, 0.2 mm wide, dark. *Inflorescence* simple, 1 or 2 in axil of phyllode; *spikes* oblongoid to cylindrical, 7–15 mm long, 4–6 mm wide when dry, golden, sub-densely flowered; *peduncles* (2)3–5(6) mm long, glabrous or sparsely puberulous; *basal peduncular bract* often persistent, broadly ovate, 0.6–0.7 mm long and wide, glabrous except for minutely fimbriolate margin, dark brown. *Bracteoles* sub-persistent, peltate; claw narrowly linear; lamina broadly ovate, c. 1 mm long, 0.6–0.7 mm diam., brown, glabrous except for minutely fimbriolate margin. *Flowers* 5-merous; *sepals* 1–1.3 mm long, 1/2–2/3 length of petals, divided for 1/4–1/5 their length into broad lobes; calyx tube sparsely puberulous; *petals* 1.6–1.9 mm long, united for c. 2/3 their length, with a fine central nerve. *Ovary* sessile, glabrous; style sub-lateral. *Pods* sub-moniliform, ± shallowly raised over seeds, shallowly to moderately constricted between them, 5–8 cm long, 5–6 mm wide, thinly coriaceous to thinly crustaceous, sub-straight to shallowly curved, glabrous, dark reddish brown, lightly pruinose. *Seeds* (very few seen, slightly immature)



longitudinal in pod, ellipsoid, 3.5–4 mm long, *c.* 2.5 mm wide,  $\pm$  shiny, black; aril small, terminal,  $\pm$  conical, cream.

*Selected specimens examined.* WESTERN AUSTRALIA: Yalgoo, *W.E. Blackall* 490 (PERTH – 2 sheets); Fields Find, *W.M.B. Carr* UWA 1033 (BRI, MO, PERTH); 2.6 miles [4.2 km] E of Yalgoo, *R.J. Cumming* 1978 (CANB, NSW, PERTH); N of Fields Find, NW of Paynes Find, 12 July 1966, *D. Hardys.n.* (PERTH); between Ninghan Station and Fields Find, *B.R. Maslin* 4246 (CANB, PERTH); 14 km E of Yalgoo and 1.5 km N of the Yalgoo–Mount Magnet road on track into quarry, *S. Patrick* SP 2266 (PERTH); Ninghan Station, 9.2 km N of Great Northern Highway on Warriedar Rd, E side of road, *S. Patrick & A. Brown* SP 2361 (PERTH); W side of Yalgoo–Jingamarra road, *c.* 9 km N of turnoff to Noongal Station, *S. Patrick & M. Meinema* SP 2895A (PERTH).

*Distribution.* Occurs in the south-west of Western Australia from the Yalgoo area to just south of Fields Find, with a further population near Mt Farmer.

*Habitat.* Grows in shallow red loam or clay, often on rocky slopes, in open low scrub. Associated species include *Acacia grasbyi*, *A. tetragonophylla*, *A. quadrimarginea* and *A. ramulosa*.

*Phenology.* Flowering recorded from June to August; mature pods (mostly dehiscent but with a very few near-mature seeds remaining) collected in February.

*Conservation status.* CALM Conservation Codes for Western Australian Flora: Priority Two.

*Etymology.* The species name is taken from the Latin *sessilis* (destitute of a stalk) with the prefix *sub-* (somewhat, less than), in reference to the very poorly developed pulvinus, the phyllodes appearing subsessile.

*Affinities.* Close relatives of this new species are not readily apparent, but in the pungent,  $\pm$  sessile, 8-nerved phyllodes it has a superficial resemblance to *A. colletioides* Benth. and *A. chapmanii* R.S. Cowan & Maslin subsp. *chapmanii*. These two taxa are readily distinguished from *A. subsessilis* by their globular to sub-globular heads, consistently terete phyllodes and strongly curved to openly coiled pods. *Acacia colletioides* is further distinguished by its phyllodes being positioned on discrete, raised stem projections and its bright yellow seed aril, and *A. chapmanii* subsp. *chapmanii* by its persistent,  $\pm$  spinose stipules and narrower pods (2.5–3 mm wide).

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### Reference

- Cowan, R.S. & Maslin, B.R. (1990). *Acacia* miscellany I. Some oligoneurous species of *Acacia* (Leguminosae: Mimosoideae: Section *Plurinerves*) from Western Australia. *Nuyisia* 7: 183–199.